

REMARKS

Claims 1-18 are currently pending in the application. As indicated above, Claim 7 has been amended to correct an error contained therein.

In the Office Action, the Examiner has again rejected Claims 1-18 under 35 U.S.C. §103 (a) as being unpatentable over the *Applicant's Admitted Prior Art (AAPA)* in view of *Molnar et al.* (U.S. 5,691,922) and *Sarkar et al.* (U.S. 6,587,446).

As previously presented, each of independent Claims 1, 4, and 7 recite repeating the sequence of code symbols t times ($t = \left\lfloor \frac{N}{r} \right\rfloor + 1$). The Examiner previously recited the AAPA (page 4, line 16) as teaching this recitation. Now the Examiner asserts that this “is merely a mathematical expression of the disclosed process and system of the combined prior art of record, and as such, the prior rejection of claims 1-18 are [sic] maintained.” Further, the Examiner asserts “[i]f the prior art structure is capable of performing the intended use then it meets the claim”. It is respectfully submitted that the Examiner is incorrect.

Each independent claim specifically recites that the coded symbols are repeated t times, where $t = \left\lfloor \frac{N}{r} \right\rfloor + 1$. Further, N represents the length of a codeword and r represents the length of a code symbol sequence. However, it is respectfully submitted that the AAPA in combination with *Molnar* and *Sarkar* does not teach the mathematical expression, which define the functions of the elements and the methods of the claims of the present application. That is, the AAPA may teach encoding by repeating, *Molnar* may teach puncturing, and *Sarkar* may teach repeating and puncturing, but none of these references, either alone or in combination, teach performing these

functions or elements for performing these functions as recited by the mathematical equations of Claims 1, 4, and 7.

Additionally, as previously presented, independent Claims 1 and 7 each recite encoding input information using *a simplex code*. However, it is respectfully submitted that none of the Examiner's cited art teaches the use of a simplex code, nor has the Examiner made any response to this argument.

Further, it is respectfully submitted that the AAPA in combination with *Molnar* and *Sarkar* does not teach *the puncturing is performed in a same position of each sequence with the length N*, as recited in amended Claims 1, 4, and 7.

More specifically, referring to col. 9, lines 39-42 of *Sarkar* as cited by the Examiner, "[t]he encoded symbols are provided to repetition generator 820 which repeats the encoded symbols to provide additional time diversity in the transmission." From the above portion, it is noted that *Sarkar* discloses only the repetition of the encoded symbols and the repetition to obtain the time diversity. That is, *Sarkar* does not disclose how the encoded symbols are repeated. Furthermore, it is a matter of general knowledge that in a wireless communication system, the time diversity is obtained through the repetition. Accordingly, the present invention is not performing the repetition for obtaining the time diversity, but for reducing an error rate of information and providing an accurate determination of a data frame. That is, for the repetition, the present invention uses a specific mathematical algorithm devised in the present invention. However, *Sarkar* fails to teach or disclose the repetition of the present invention.

As for a puncturing method, *Sarkar* discloses providing a predetermined number of symbols within the frame (Col. Lines 45-46). However, in the present invention, the puncture is performed at the position where "1" is in the smallest position.

Therefore, it is respectfully submitted that the Examiner is incorrect in rejecting independent Claims 1, 4, and 7 under 35 U.S.C. §103 (a) as being unpatentable over the *AAPA* in view of *Molnar* and *Sarkar*, and it is respectfully requested that the rejection of these claims be withdrawn.

Without conceding the patentability per se of dependent Claims 2-3, 5-6, and 8-18, they are likewise believed to be allowable by virtue of their dependence on Claims 1, 4, and 7, respectively. Accordingly, reconsideration and withdrawal of the rejection of dependent Claims 2-3, 5-6, and 8-18 is respectfully requested.

Accordingly, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any questions, it is respectfully requested that the undersigned attorney be contacted at the earliest convenience to discuss the present application. Early and favorable action is earnestly solicited.

Respectfully submitted,



Paul J. Farrell
Reg. No. 33,494
Attorney for Applicant(s)

DILWORTH & BARRESE, LLP
333 Earle Ovington Boulevard
Uniondale, New York 11553
TEL: (516) 228-8484
PJF/DMO/las